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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,939	01/09/2001	John W. Cole	FIS920000168US1	6746

29505 7590 10/21/2004

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EXAMINER
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PHILLIPS, HASSAN A

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/756,939	COLE, JOHN W.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hassan Phillips	2151	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 7, 2004 has been entered.

### ***Response to Arguments***

1. Applicant's arguments, see page 9, filed July 6, 2004, with respect to the rejection(s) of claim(s) 1-15, under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Patrick, II (hereinafter Patrick), U.S. Patent 5,142,624.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 5, 13, 14, and 15, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

2. Claims 1, 5, 13, 14, and 15, are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: 1) showing who marks the message structure as ready to transmit; 2) showing how the message structure is marked as ready to transmit; and, 3) showing when the message structure is marked as ready to transmit. The omitted steps are essential for determining when the sets of data become ready for transmission.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vahalia et al. (hereinafter Vahalia), U.S. Patent No. 6,298,386, in view of IBM Technical Disclosure Bulletin Vol. 40, No. 5, May 1997, and further in view of Patrick.

3. In considering claims 1, 5, 10, 11, 13-15, Vahalia discloses a method and computer program, for transferring incoming concurrent sets of data from sending transport systems to requesting transport systems comprising the steps of:

- a) Retrieving messages (sets of data), (col. 18, lines 44-46);
- b) Transferring sets of data to a receiving queue (col. 19, lines 62-65);
- c) Queuing messages (sets of data) in a receiving queue by dividing the messages into words (blocks of data), storing words in available storage locations, and having associated data by using indexes to associate the words with a corresponding storage location (col. 18, lines 61-67, and col. 19, lines 1-10);
- d) Sending the sets of data by transmitting the associated data in the storage locations to a requesting transport system, and indicating that the storage location is available for storing other blocks of data (col. 19, lines 23-33).

Although the disclosed method and computer program of Vahalia shows substantial features of the claimed invention, they fail to explicitly disclose:

- a) Querying a receiving queue for available data storage locations, and signaling a process to transfer data to the storage locations.

Nevertheless, in a similar field of endeavor, an IBM Technical Disclosure Bulletin discloses a queuing mechanism for bi-processor communication comprising:

- a) Querying memory for available storage locations (pg. 171, second bullet);
- b) Signaling a process to transfer data to the storage locations (pg. 171, second bullet).

With the knowledge of a method such as disclosed by the IBM Technical Disclosure Bulletin, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Vahalia (col. 19, lines 62-63), by employing a means for querying memory for available storage locations before allocating memory. The motivation to do so would have been to verify that there are enough storage locations, for the data being allocated, to avoid the data being rejected for storage, or worse case, the data being lost.

Although the combined method and computer program of Vahalia and the IBM Technical Disclosure Bulletin shows substantial features of the claimed invention, they fail to explicitly disclose:

- a) Performing a round robin search for a message structure marked as ready to transmit.

Nevertheless, performing round robin searches for messages marked as ready to transmit was well known in the art at the time of the present invention. This is exemplified in the teachings of Patrick. More specifically, Patrick teaches a virtual network for personal computers comprising:

- a) Performing a round robin search for a message structure marked as ready to transmit, (col. 10, lines 19-34).

Given the teachings of Patrick, it would have been obvious to a person having ordinary skill in the art to modify the teachings of Vahalia, to show performing a round robin search on the queue for a message structure marked as ready to transmit. This would have provided an alternate and well-known means for directing messages to the

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pipes they came from when the messages were ready to be transmitted, Vahalia, col. 18, lines 56-61.

4. In considering claims 2 and 7, see Vahalia, col. 1, lines 43-45. Also, see Fig. 18.

5. In considering claims 3 and 8, see Vahalia, col. 15, lines 7-13.

6. In considering claims 4 and 9, see Vahalia, col. 15, lines 7-10, and 24-26.

7. In considering claim 6, see Vahalia, col. 19, lines 23-28.

8. In considering claim 12, see Vahalia, col. 19, lines 13-28. It is implicit that, indicating to the requesting transport system sets of data are ready for sending, is done by the code thread checking whether or not the collector queue is empty.

9. Claims 16, 17, 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vahalia, in view of the IBM Technical Disclosure Bulletin and Patrick, and further in view of Jiang et al., (hereinafter Jiang), U.S. patent 6,614,441.

10. In considering claims 16 and 20, although the disclosed methods of Vahalia in view of the IBM Technical Disclosure Bulletin and Patrick, shows substantial features of the claimed invention, they fail to explicitly disclose:

- a) A circular two-dimensional array.

Nevertheless two-dimensional arrays, constructed as circular arrays, were well known in the art at the time of the present invention and were used for a variety of applications. Jiang teaches of method for processing video data in a computer system comprising:

- a) Utilizing a two-dimensional array, constructed as a circular array, for storing video data of different video formats, (col. 5, lines 40-50).

With the knowledge of a method such as disclosed by Jiang, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Vahalia and the IBM technical disclosure bulletin, by employing a two-dimensional array, constructed as a circular array of specific message structures. This would have provided a more efficient and secure means for interleaving the data generated by multiple processes, Jiang, col. 5, lines 45-50.

11. In considering claim 17, Jiang further teaches performing a round-robin search in the first dimension of the array and maintaining associated control variables for all video data. See col. 6, lines 11-51. The motivation for modifying the teachings of Vahalia and the IBM technical disclosure bulletin would be the same as that mentioned in the consideration of claim 16.



12. Claims 18, 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vahalia et al., in view of the IBM Technical Disclosure Bulletin and Patrick, and Jiang, and further in view of Palatucci et al., (hereinafter Palatucci), U.S. patent 4,658,359.

13. In considering claim 18, although the disclosed methods of Vahalia in view of the IBM Technical Disclosure Bulletin and Patrick and Jiang, shows substantial features of the claimed invention, they fail to explicitly disclose:

- a) A software generated circular buffer.

Nevertheless two-dimensional arrays, constructed as circular arrays, including software generated buffers were well known in the art at the time of the present invention and were used for a variety of different applications. This is exemplified by Palatucci who teaches a method for managing resources in an avionics communications system comprising:

- a) A buffer, constructed as a two-dimensional array, generated by software, (col. 5, lines 46-52).

With the knowledge of a method such as disclosed by Palatucci, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Vahalia, the IBM technical disclosure bulletin, and Jiang, by employing a software generated two-dimensional array, constructed as a circular array of specific message structures. This would have provided a more manageable buffer Palatucci et

al. col. 5, lines 52-64, capable of providing a more efficient and secure means for interleaving the data generated by multiple processes, Jiang, col. 5, lines 45-50.

14. In considering claim 19, Jiang further teaches performing a round-robin search in the first dimension of the array and maintaining associated control variables for all video data. See col. 6, lines 11-51. The motivation for modifying the teachings of Vahalia and the IBM technical disclosure bulletin would be the same as that mentioned in the consideration of claim 18.

### ***Conclusion***

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Erimli et al., U.S. Patent 6,618,390, discloses a method and apparatus for maintaining randomly accessible buffer information for a network switch.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hassan Phillips whose telephone number is (571) 272-3940. The examiner can normally be reached on M-F 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (703) 308-6687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**PRIMARY EXAMINER**